

IFW RCE/2155

**PATENT APPLICATION**  
Attorney's Do. No. 2705-137

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of: Peter M. GITS and Dale J. SEAVEY

Serial No. 09/698,779  
Filed: October 27, 2000  
For: SMART SECRETARY

**TRANSMITTAL LETTER**

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Commissioner for Patents  
P.O. Box 1450  
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Enclosed for filing in the above-referenced application are the following:

- Interview Summary
- Any deficiency or overpayment should be charged or credited to deposit account number 13-1703. A duplicate copy of this sheet is enclosed.

**Customer No. 20575**

Respectfully submitted,

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ON: 2 Aug 2004  
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PATENT APPLICATION  
MJM Docket No. 2705-137

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Peter M. GITS and Dale J. SEAVEY

Serial No. 09/698,779

Examiner: Kevin T. BATES

Confirmation No. 7155

Filed: October 27, 2000

Group Art Unit: 2155

For: SMART SECRETARY

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INTERVIEW SUMMARY

On July 22, 2004, the undersigned and Julie L. Reed held a telephonic interview with Examiner Zhen. All the claims were discussed, with specific reference to claim 1. The undersigned asked if the Examiner was interpreting the term "Space" to be an "ether"-type concept, without specific form, to which the Examiner agreed. The undersigned pointed out that the term "Space" refers to a structure, and is not generic for the system as a whole. When the Examiner asked if a Space was similar to a database, Julie L. Reed argued that Spaces and databases are different concepts. Some differences between Spaces and databases are outlined below. Based on this discussion, the Examiner agreed that neither Theimer nor Wolff taught the concept of a Space, as claimed.

The undersigned also argued that because Theimer and Wolff do not teach or suggest Spaces as claimed, Theimer and Wolff have to pass messages directly from devices and agents to other agents, without using a Space. Therefore, Theimer and Wolff cannot teach or suggest the claimed invention, in which the agents receive the objects from the Space.

Finally, the undersigned argued that Theimer and Wolff do not teach routing as claimed. In Theimer and Wolff, the messages pass along predefined lines, and only from one agent to another agent. The references do not teach or suggest that the messages could be passed to different agents based on preferences, or to multiple agents, as claimed variously in claims 2-10, 15-18, 20-21, 24-27, 29-30, 33-36, 38-39, and 41-44.

To aid the Examiner in the distinction between Spaces and databases, the following are some distinguishing points between Spaces, which might help clarify the distinction. For more details, the Examiner is referred to [JavaSpaces Principles, Patterns and Practice](#), by Eric Freeman, Susanne Hupfer, and Ken Arnold.

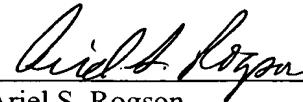
- JavaSpaces is the realization of “tuple spaces” from David Gelernter.
- “A space is a shared, network-accessible repository for objects. Processes use the repository as a persistent object storage and exchange mechanism; instead of communicating directly, they coordinate by exchanging objects through spaces. Processes perform simple operations to write new objects into a space, take objects from a space, or read (make a copy of) objects in a space. When taking or reading objects, processes use a simple value-matching lookup to find the objects that matter to them. If a matching object isn’t found immediately, then a process can wait until one arrives. Unlike conventional object stores, processes don’t modify objects in the space or invoke their methods directly -- while there, objects are just passive data. To modify an object, a process must explicitly remove it, update it, and reinsert it into the space.” JavaSpaces Principles, Patterns, and Practice Freeman, Hupfer, Arnold.
- Differences between a table row and a tuple
- Spaces only allow for primitive type matching, exact field matches and no wildcard searching whatsoever. There is no “like” or sql in the search criteria.
- Spaces are not broken into any tables and are not keyed, indexed, in fact space data is never serialized into object format, it is kept as a serialized stream.
- There are no joins, sql statements, or tables of any sort. There is no ordering as in FIFO, LIFO, or Incrementing counters as there are in databases.

- **Space Api**

- Lease 1 = write(Entry, leaseLength)
- Entry Object = take(EntryTemplate) + IfExists (non-blocking)
- Entry Object = read(EntryTemplate) + IfExists (non-blocking)
- subscription = notify(EntryTemplate, leaseLength)
- All objects in a space have a lease associated with them that when it expires, the entry is reclaimed if its lease is not renewed prior to this timeout. A database does not have this capability.
- Spaces support a notification of an entry written to a space, but doesn’t return the actual object that was written to the space, the best that it does it say what type was written.
- There are both transient space implementations as well as persistent space implementations where a restart of the process will retain the entry objects that have yet to expire.

Respectfully submitted,

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ON: *2 Jun 2014*  
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